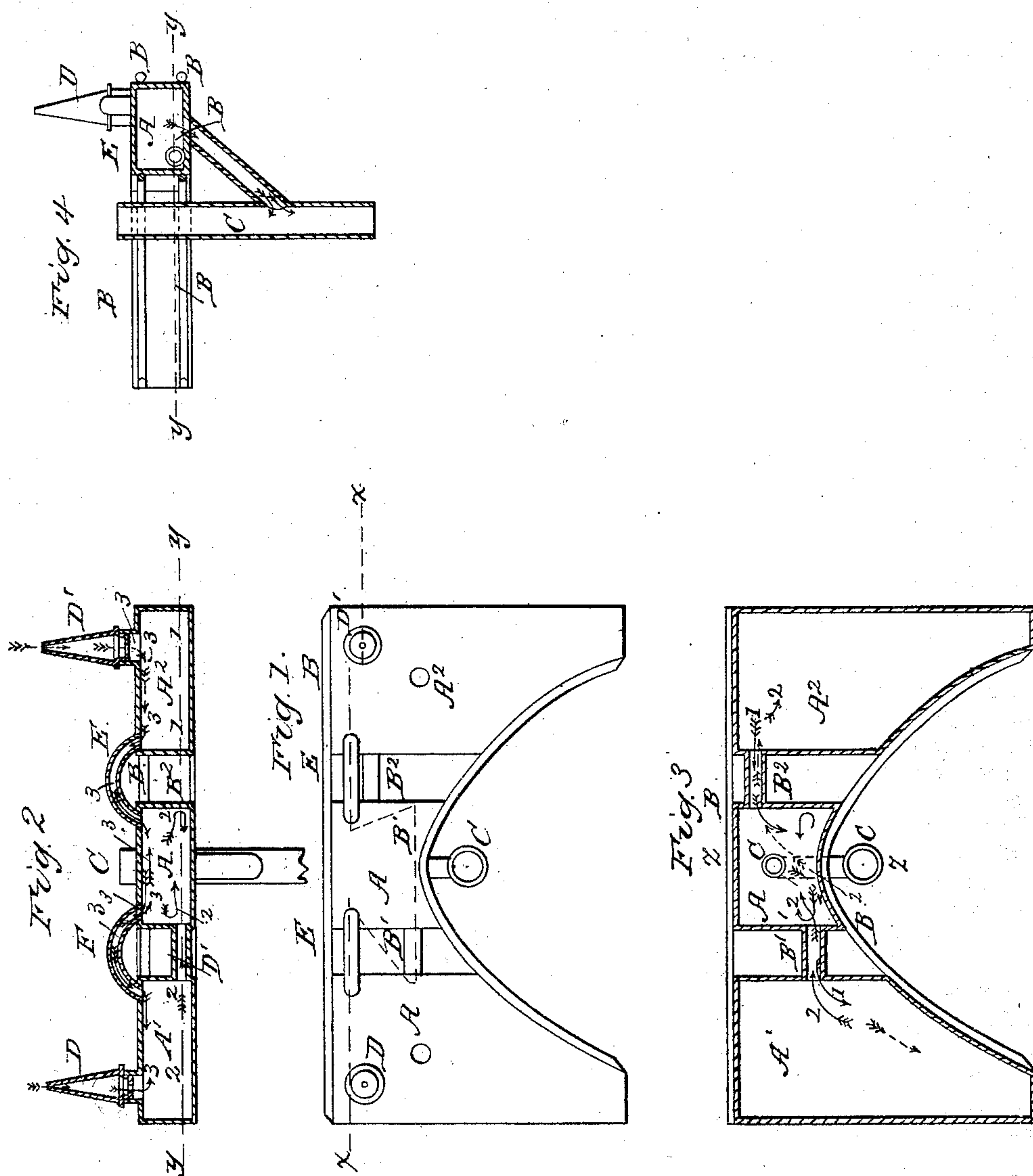


L. A. HAMBLLEN.
Locomotive Lamp.

No. 16,384.

Patented Jan. 13, 1857.



UNITED STATES PATENT OFFICE.

LEWIS A. HAMBLLEN, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN LOCOMOTIVE-LAMPS.

Specification forming part of Letters Patent No. 16,384, dated January 13, 1857.

To all whom it may concern:

Be it known that I, LEWIS A. HAMBLLEN, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Locomotive-Lamps; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan or top view of a locomotive-lamp constructed after my invention; Fig. 2, a vertical longitudinal section through the line $x x$ in Fig. 1; Fig. 3, a horizontal section through the line $y y$ in Figs. 2 and 4, and Fig. 4 a vertical transverse section through the line $z z$ in Fig. 3.

Similar letters of reference in each of the several figures indicate corresponding parts.

This invention relates particularly to locomotive-lamps which are adapted for burning sperm and other oils, and is intended to render the feed to the burner continuous and perfectly steady or uniform, no matter how unsteady the motion of the engine.

The nature of my improvement consists in making the lamp with three or more distinct oil-chambers, said chambers all being arranged on the same level and connected together by two tubes, which run parallel but not in line with each other, said chambers also being provided with vent-passages in such a manner that air is admitted into each and allowed a free circulation over the whole surface of the oil, as presently described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A A' A² in the accompanying drawings represent the lamp made with three distinct chambers or reservoirs, which are arranged all on the same level and supported and connected together by wire rods or metal strips B B.

B' B² are small tubes forming a communication between the chambers. B' runs parallel with B², but is arranged considerably out of line with it in order that the communication between the side chambers shall be indirect, and thus a too great or sudden pressure in either side chamber and a consequent extra

pressure on the oil in the central chamber from the lateral motion of the engine avoided, and thus the feed to the burner prevented from being unsteady. The central chamber A is much smaller than the side chambers, and serves for receiving the oil from the side chambers and supplying it continuously and uniformly to the burner C. By having this central chamber smaller than the others the oil will not be affected so much by the lateral motion of the engine, and by having the communication B' from the side chamber A' to it out of line with the passage B² of the side chamber A² the oil in the central chamber will not be affected by a too great or sudden pressure in either of the side chambers, for, as may be evident, the oil, when thrown almost as quick as lightning by the lateral motion of the engine from the side chamber A', will strike first against the side wall of the central chamber and then be returned to the center of the chamber, at which point it is soon met by another current thrown from the opposite side wall, the two currents, for a moment only, forming a slight eddy in the center of the chamber and then passing gradually from the center chamber in an indirect line into either the chamber A' or A², as illustrated by the arrows 1 1 2 2, and thus relieving the oil in the central chamber from too great or sudden pressure and maintaining a steady feed to the burner.

D D' are two vent-passages in the top of the side chambers. They have hollow conical screw-caps, which are removable, so that the lamp may be filled or emptied at either side.

E E are semicircular tubes or vent-passages running from the side chambers to the central one, as shown, and serving for conducting the air from the side vent-passages D D' to the central chamber. By this arrangement of vent-passages a free circulation of air over the whole upper surface of the oil is secured, as illustrated by the arrows 3, and thus a regular and constant pressure sufficient to keep up a perfect and uniform feed effected.

This lamp is simple, cheap, and compact, and from practical experiment has been found admirably adapted for railroad purposes, it giving a uniform feed, avoiding the possibility of the oil slopping and overflowing and wast-

ing out at any point, no matter how unsteady the motion of the engine.

I am aware that the reservoir or chamber of a locomotive-lamp has been divided into a series of compartments by means of partitions, which extended from the top to near the center of its depth; but this arrangement has been found not to accomplish the object desired, as a direct communication is necessarily left from end to end of the lamp below said partitions, and owing to this, as the oil is shot suddenly back and forth, that portion which is below the partitions rushes to one end of the lamp and that above the bottom of the partitions falls into its place and causes a too great and sudden pressure at the said end, and slopping or overflowing and unsteady feeding to the burner are the results. Such an arrangement, therefore, I do not claim, as the

same was patented to Irvyn A. Williams on the 10th of October, 1854; but

What I do claim as my invention and as an improvement on the said Williams' lamp, and for which I desire to secure Letters Patent, is—

Making a locomotive-lamp with three or more distinct chambers $A A' A^2$, said chambers all being arranged on the same level and connected by two tubes $B B'$, which run parallel but not in line with one another, and provided with two elevated vent-passages $E E$, which communicate with the ordinary vent-passages $D D$, substantially as and for the purposes herein set forth.

LEWIS A. HAMBLIN.

Witnesses:

JAMES LEWIS,
CHARLES RANSOM.